

REMARKS

Claims 1-4, 7-13, 16, 17, 19 and 20 are pending. Claims 1, 4, 7, 8, 12 and 16-17 are the independent claims. Favorable reconsideration is respectfully requested.

Claims 1-3, 8, 12, 13, 16 and 17 were rejected under 35 U.S.C. § 103(a) over U.S. Published Appln. No. 20030037167A1 (Garcia-Luna-Aceves) in view of U.S. Patent 5,034,933 (Sasuta). Claim 4 was rejected under 35 U.S.C. § 103(a) over Garcia-Luna-Aceves in view of U.S. Published Appln. No. 005850592A (Ramanathan). Claim 7 was rejected under 35 U.S.C. § 103(a) over Garcia-Luna-Aceves in view of U.S. Patent 6,381,467 (Hill et al.). Claims 9, 11, 19 and 20 were rejected under 35 U.S.C. § 103(a) over Garcia-Luna-Aceves in view of Sasuta et al., and further in view of U.S. Published Appln. No. 006137885A (Totaro et al.). Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Garcia-Luna-Aceves in view of Hill et al., and further in view of Totaro et al. Applicants submit that the independent claims are patentable over the cited art for at least the following reasons.

A feature of claim 1 not taught or suggested in the art of record is that in a relay station device having a first function for directly communicating with a center and a second function for communicating with the center via another relay station, one of a first operating mode for executing the first function and a second operating mode for executing the second function is set to the relay station device, and wherein a mode is selected based upon a communication quantity of the relay station device.

In the Office Action, it was again conceded that Garcia-Luna-Aceves does not teach this feature. However, the Examiner took the position that it would have been obvious to combine Sasuta, which shows a method of allocating communication resources, with Garcia-Luna-Aceves.

It is improper to change the principle of operation of the primary reference in a proposed modification of that reference in an obviousness rejection. In this case, the manner of deciding which path to use in Garcia-Luna-Aceves is dependent on an optimization of distance between an IR and destination:

“[T]he IR chooses a neighbor *n* as its successor (next hop) towards a destination if, and only if, (1) the distance to the destination through that neighbor is the smallest attainable distance to the destination through any neighbor, and (2) the distance to each intermediate hop in the path from the IR to the destination through neighbor *n* is the smallest attainable distance to that destination through any neighbor.” Paragraph 0083 of Garcia-Luna-Aceves.

The Office Action proposes replacing this manner of deciding which path to use, in order to make the modified system read more like the independent claims. However, the only reason to make such a change is meet the features of the claims, which is totally improper.

In the Response to Arguments, the Examiner says that he recognizes that obviousness can only rely on a combination or modification if there is “some teaching, suggestion or motivation to do so found either in the references themselves or in the knowledge or in the knowledge generally available to one of ordinary skill in the art.” Office Action, page 15. Apparently, the Examiner has not found any teaching or suggestion in any of the references, since none is specified. Instead, the Office Action states that “the motivation to combine Garcia-Luna-Aceves with Sasuta would be to maximize the efficiency of the overall system and decrease the need for additional hardware.” *Id.* at page 15.

However, this statement, standing alone, cannot support a finding of motivation to combine. The fact that the specific source of the teaching that would provide the motivation need not be identified does *not* mean that the teaching or knowledge itself need not be identified. Otherwise, the Office would be free to use the teachings of the Applicants, which would be improper. In fact, the Office Action provides no evidence, in fact does not even allege, that knowledge actually existed at the time of filing of the present application that

would have led someone to believe that efficiency would have been gained by making the proposed combination of references.

Stating a “motivation” without stating *what* knowledge allegedly generally available would have provided that motivation is legally deficient in supporting a prima facie case of obviousness. If the Examiner is to rely on his own personal knowledge of the state of the art before the filing date of the present application to support his conclusory statement as to motivation, he is requested to submit an affidavit testifying to that knowledge, citing appropriate scholarly sources for support.

Absent such an affidavit, the statement allegedly providing motivation is legally insufficient to support a prima facie case.

Moreover, if a proposed modification would have been obvious simply because it would make the primary reference more efficient, then no invention that improved the efficiency of the prior art would ever be patentable. An Examiner would be able to combine as many references as he/she needed to meet all of the claim features and say that the motivation to combine them would have been to increase efficiency. Yet this is clearly not the law, since many patents are granted on inventions that improve the efficiency of the prior art.

From the above it is believed clear that the rejection based on the combination of Garcia-Luna-Aceves and Sasuta is completely improper and that no prima facie case of obviousness has been established.

In summary, the Office Action has failed to point out what teaching in the prior art, or knowledge generally available, would have lead one to make the specific modification proposed in the Office Action. Simply saying it would be more efficient does not meet this test. If anything, the design goal of Garcia-Luna-Aceves would have *taught away* from the modification, which would have changed the principle of operation of Garcia-Luna-Aceves.

For at least this reason, the Office Action has failed to establish that one of ordinary skill in the art would have been motivated to make the proposed modification, and claim 1 is believed patentable. Claim 12 recites substantially the same feature and is believed patentable for similar reasons.

Claim 4 is directed to a network system. The network system includes: a center; a relay station device; and a terminal communicating with the center via the relay station device. The relay station device has a first function for directly communicating with the center and a second function for communicating with the center via another relay station, wherein one of a first operating mode for executing the first function and a second operating mode for executing the second function is set to the relay station device. When the relay station device cannot communicate with a host station including the another relay station, the relay station device is set to the first operating mode. When the relay station device cannot communicate with the host station including the another relay station, the relay station device outputs a communication stop signal indicating the host station to the center. When the host station can communicate with the relay station device, the host station outputs to the center a recovery declaration signal indicating that the host station can communicate with the relay station device, and wherein the center outputs to the relay station device a recovery notification signal indicating that the host station is communicable based on the communication stop signal and the recovery declaration signal, and wherein the relay station device is switched from the first operating mode to the second operating mode in response to the recovery notification signal.

In the Office Action it was conceded that Garcia-Luna-Aceves did not teach the feature of claim 4 by which when the relay station device cannot communicate with the host station including the another relay station, the relay station device *outputs a communication stop signal* indicating the host station to the center, and when the host station can communicate with the relay station device, the host station outputs to the center a recovery

declaration signal indicating that the host station can communicate with the relay station device, and wherein the center outputs to the relay station device a recovery notification signal indicating that the host station is communicable based on the communication stop signal and the recovery declaration signal, and wherein the relay station device is switched from the first operating mode to the second operating mode in response to the recovery notification signal.

Ramanathan is relied upon to remedy this deficiency. However, the portions of Ramanathan cited in the Office Action do not teach what is recited.

For one thing, the recitation “wherein when said relay station device cannot communicate with said host station including said another relay station, said relay station device outputs a communication stop signal” is not found in the cited portions of Ramanathan. At the top of page 10 of the Office Action, the Examiner cites col. 4, lines 8-19 of Ramanathan as allegedly meeting the limitation of claim 4 of: “said relay station device cannot communicate with a host station including said another relay station, said relay station device is set to said first operating mode”

However, no portion of Ramanathan is cited for the limitation “wherein when said relay station device cannot communicate with said host station including said another relay station, said relay station device outputs a communication stop signal . . . ,” one of the limitations conceded to be missing from Garcia-Luna-Aceves. For at least this reason, no prima facie case of obviousness has been made. That is, even as combined, Garcia-Luna-Aceves and Ramanathan do not meet all the features of claim 4.

Further, the alleged motivation is not a motivation to change Garcia-Luna-Aceves, it is simply a general statement of the desirability to adaptively reorganize “in the face of movement or destruction” Office Action at page 11. No motivation has been identified that would cause one of ordinary skill in the art *to make the proposed modification* to Garcia-

Luna-Aceves. For this additional reason, no prima facie case of obvious has been set forth with regard to claim 4.

Claim 7 recites, inter alia, that the first relay station device is set to one of a first operating mode for executing said first function and a second operating mode for executing said second function based on said communication quantity data. In the Office Action, it was conceded that Garcia-Luna-Aceves does not teach this feature. Hill et al. was alleged to remedy this deficiency.

However, as was pointed out above in connection with the rejections of claims 1 and 12, each of which recite a substantially similar feature, the manner of deciding which path to use in Garcia-Luna-Aceves is dependent on optimizing, i.e., seeking the shortest, distance between an IR and destination.

That is, “the IR chooses a neighbor n as its successor (next hop) towards a destination if, and only if, (1) the distance to the destination through that neighbor is the smallest attainable distance to the destination through any neighbor, and (2) the distance to each intermediate hop in the path from the IR to the destination through neighbor n is the smallest attainable distance to that destination through any neighbor.” Paragraph 0083 of Garcia-Luna-Aceves.

For at least this reason, there would have been no motivation to modify Garcia-Luna-Aceves’ device to add another variable, namely the amount of communication arriving at the IR, in deciding whether direct or indirect communication should be employed, since using this additional criteria would often work against Garcia-Luna-Aceves’ design goal of utilizing the shortest path to the destination. As was the case in connection with claim 1, the design goal of Garcia-Luna-Aceves would have *taught away* from the modification, which would have changed the principle of operation of Garcia-Luna-Aceves.

Moreover, no teaching in the prior art, or in the art generally known, has been identified that would have provided the alleged motivation of “better balanc[ing] the load and system resources,” set forth in the Office Action. If the Examiner is aware based on his own personal knowledge of any teaching available generally at the time the present application was filed that would have provided such motivation, he is requested to issue an affidavit of support for this alleged teaching.

For at least this reason, no one of ordinary skill in the art would have been motivated to make the proposed modification, and no prima facie case of obviousness has been established with regard to claim 7.

Claim 8 is directed to a network system. The network system includes: a center; a relay station device; and a terminal communicating with the center via the relay station device. The relay station device has a first function for directly communicating with the center and a second function for communicating with the center via another relay station. One of a first operating mode for executing the first function and a second operating mode for executing the second function is set to the relay station device in response to a message indicating mode switching transmitted from a slave station including the terminal.

The Office Action conceded that Garcia-Luna-Aceves does not teach the feature that one of a first operating mode for executing the first function and a second operating mode for executing the second function is set to the relay station device in response to a message indicating mode switching transmitted from a slave station including the terminal. Sasuta was relied upon to remedy this deficiency.

The cited portion of Sasuta discusses the general concept of requesting additional resources if a fully loaded condition is encountered:

Yet another scheme would hold all R of the resources (208) in reserve unless a specific request for additional resources were received from a

communication system in need. If System 1 (201) were fully loaded such that all N of the permanently allocated resources (203) were in use, and yet had need of more resources to permit additional communication, System 1 (201) would request the allocation of an additional resource, and one of the R available resources (208) from the reserve group (207) would then be assigned to System 1 (201). Col. 3, lines 12-21.

However, there is no teaching or suggestion of the limitation of claim 8 discussed above. The request by system 1 (201) for more resources in Sasuta does not meet the recited limitation that one of a first operating mode for executing the first function and a second operating mode for executing the second function is set to the relay station device in response to a message indicating mode switching transmitted from a slave station including the terminal.

The Examiner took the position that the request for more resources in Sasuta is read on by the recited "a message indicating mode switching transmitted from a slave station including said terminal." However, such a request is not a message indicating mode switching, as mode switching is defined in the rest of the claim. That is, there is no teaching in Sasuta that the request for more resources relates in any way to whether there is direct communication with a center (the recited first mode/function) or communication via a relay station (the recited second mode/function). For at least this reason, even if Sasuta and Garcia-Luna-Aceves are combined, the combination does not meet all of the limitations of claim 8, and no prima facie case of obviousness has been established.

For at least this reason, claim 8 is believed patentable over the cited references. Claims 16 and 17 recite a similar feature and are believed patentable for substantially similar reasons.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the

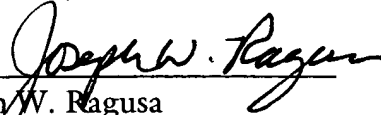
invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

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Respectfully submitted,

By



Joseph W. Ragusa

Registration No.: 38,586

DICKSTEIN SHAPIRO MORIN &
OSHINSKY LLP

1177 Avenue of the Americas

41st Floor

New York, New York 10036-2714

(212) 835-1400

Attorney for Applicant